

Recent Cross County Commuting Patterns

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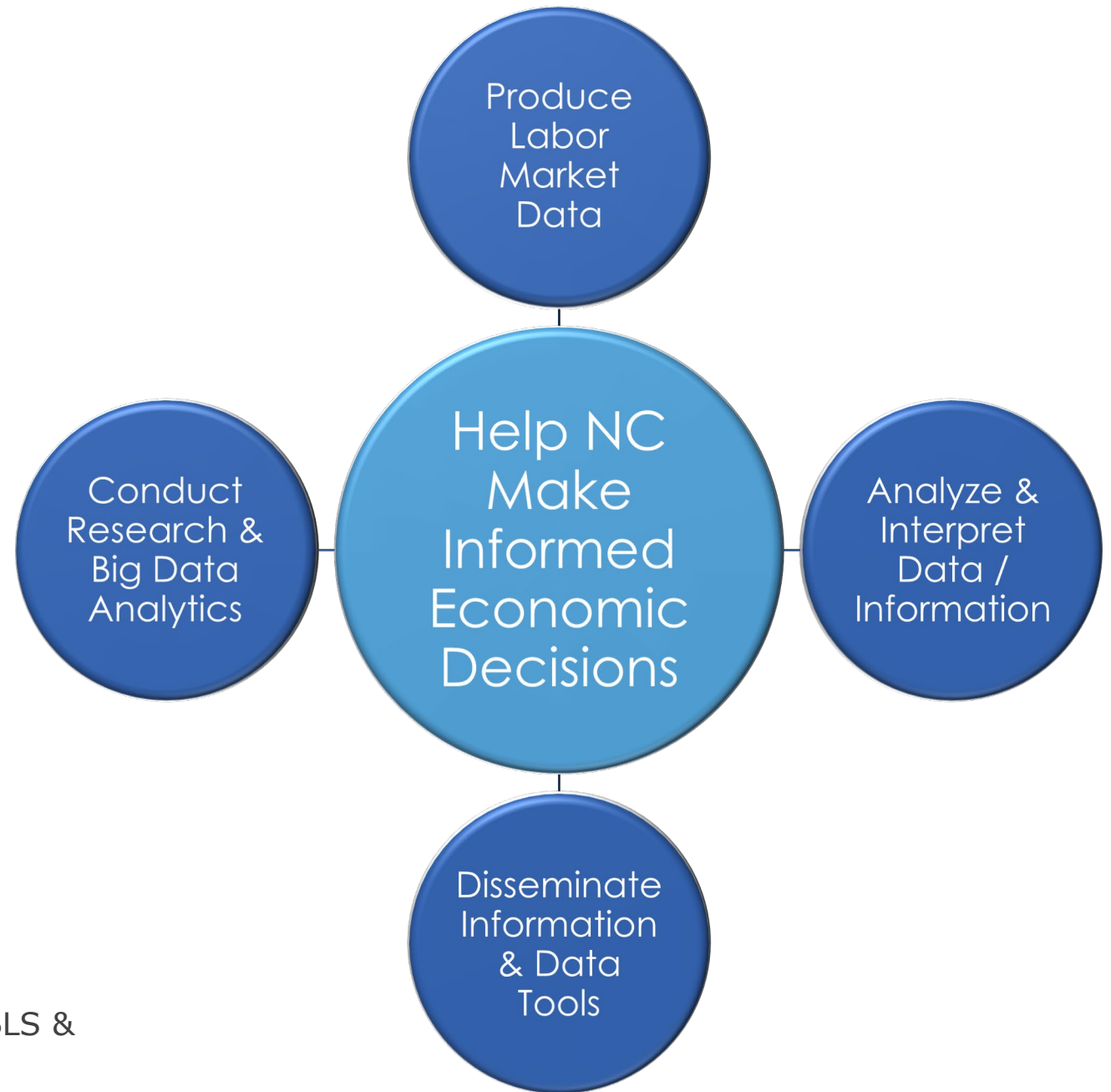
Who is LEAD?

NC's primary source of economic & labor market data, information, & analysis



Funding

Multiple sources, including state \$
Most significantly by US Dept. of Labor (BLS & ETA)



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**NC Economic Trends
Blog:**

The LEAD FEED

[https://www.nccommerce.com/
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Goal of Research

- **To better understand commuting patterns and labor markets across North Carolina**

Background

- **What is an interconnected labor market?**
 - **Methodology**
- **Why study/use interconnected markets?**

Background

Based on USDA commuting zones.

$$P_{ij} = \frac{(\text{commuters from county } i \text{ to } j) + (\text{commuters from county } j \text{ to } i)}{(\text{resident labor force of smaller county})}$$

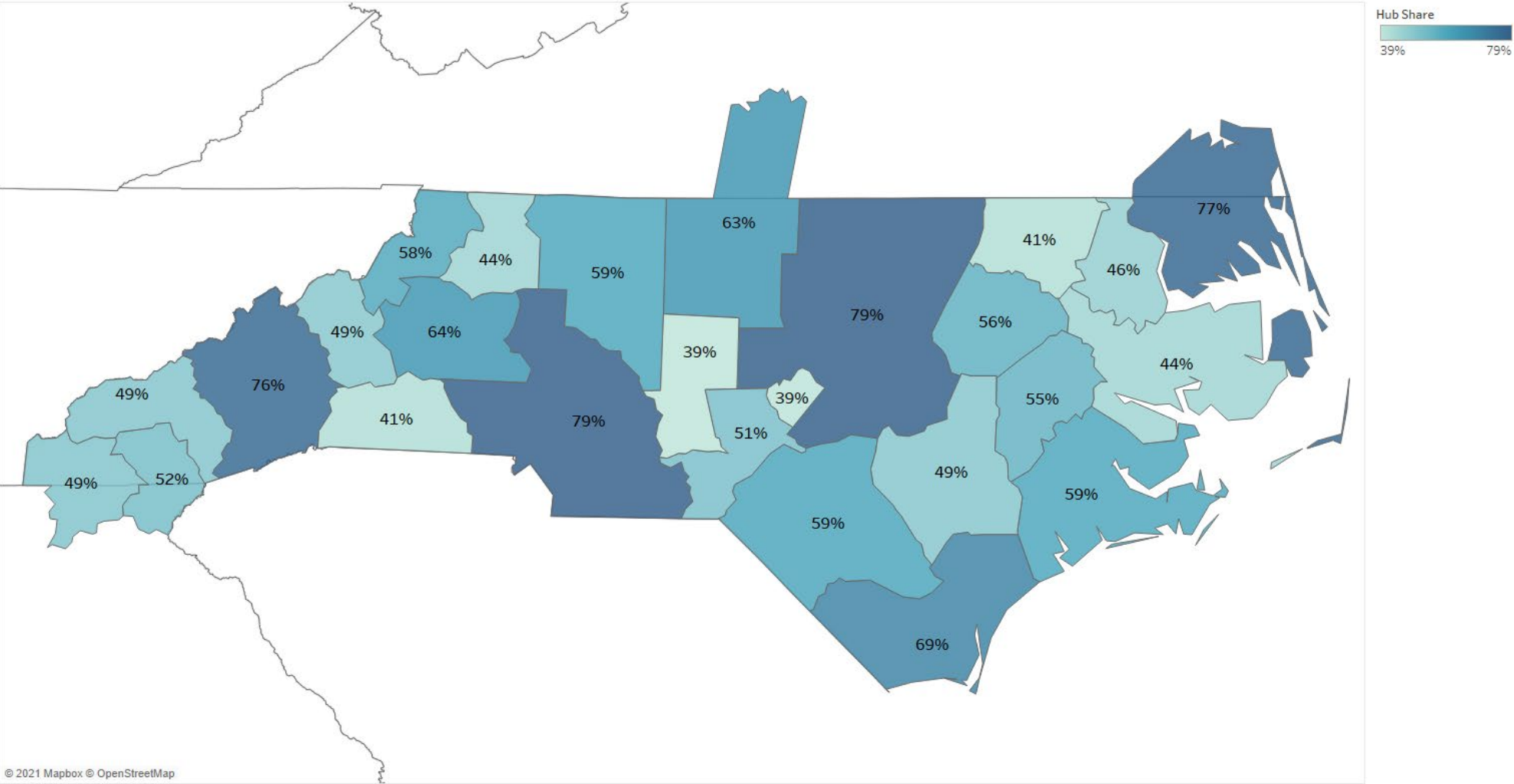
It first joins counties with highest cross-commuting, and then recalculates average among the newly defined clusters until done.

Algorithm in Action



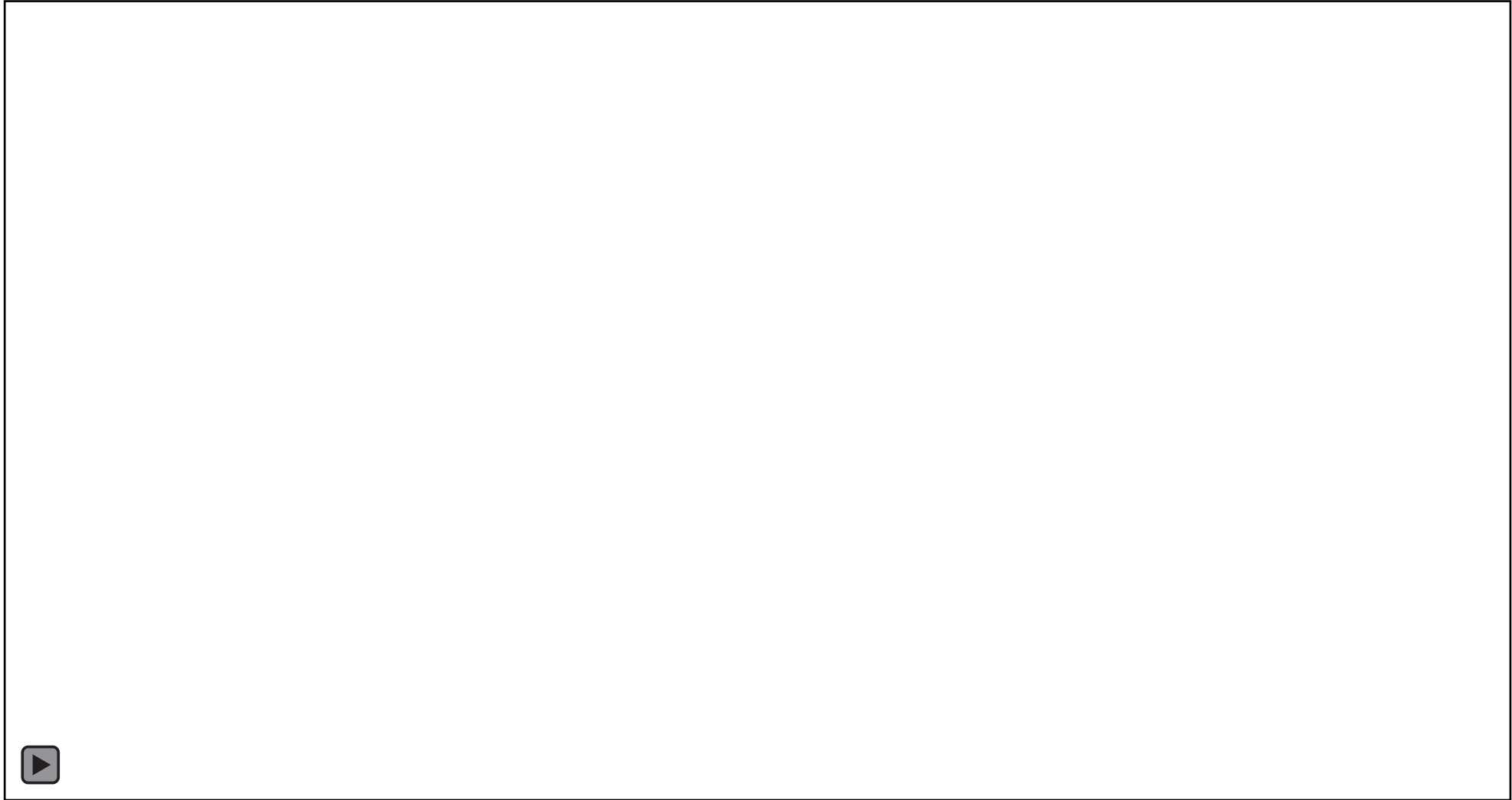
2018 Snapshot (Hub share)

2018 Hub Share Map



Map based on Longitude (generated) and Latitude (generated). Color shows details about Hub Share. The marks are labeled by Hub Share. Details are shown for Clustyr. The data is filtered on Year Year, which keeps 2018.

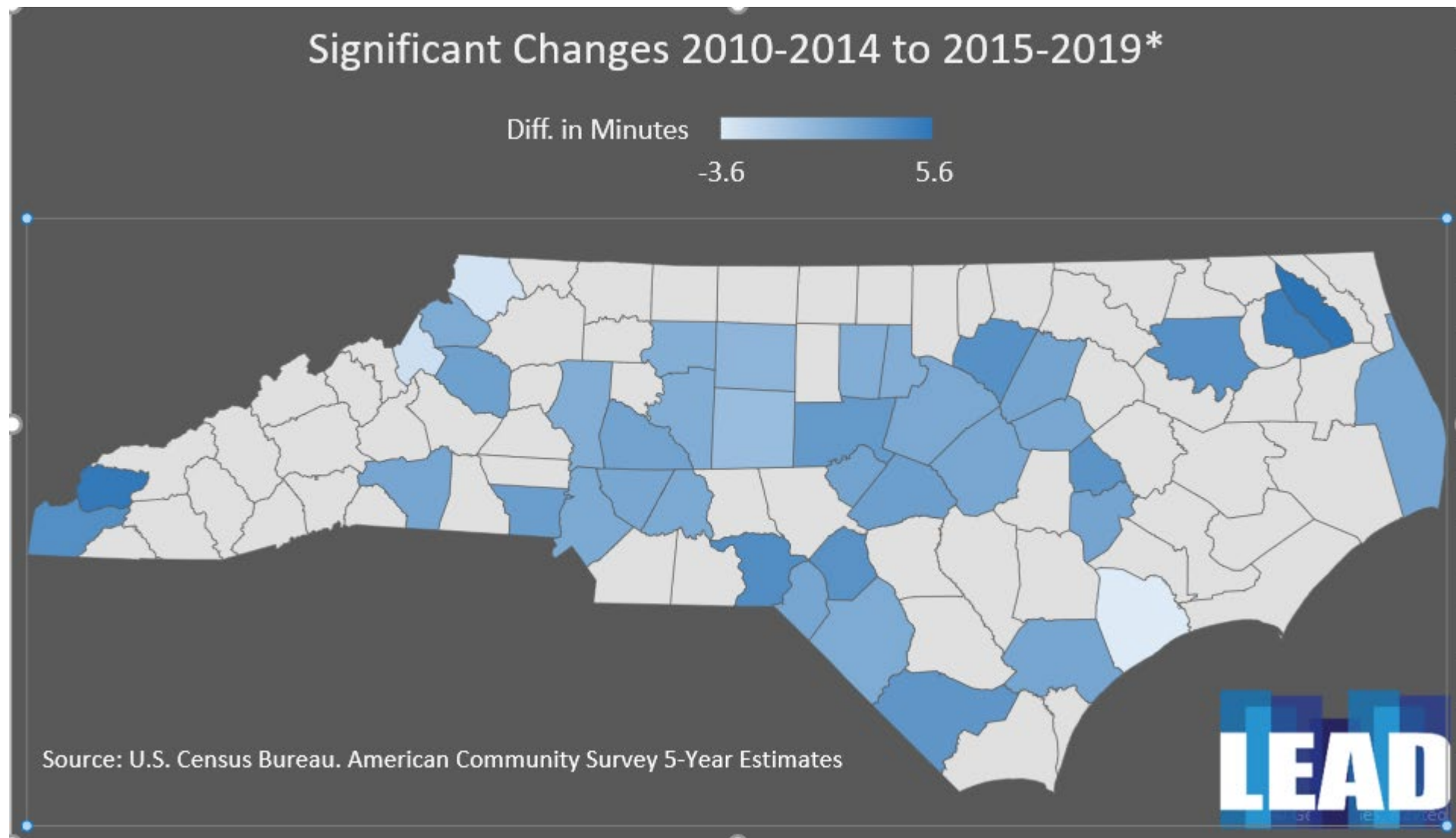
2015 to 2018 Time Lapse



Implications of Time Lapse; Future Research

- **Interstate commuting**
 - Virginia and NC
- **Consistent markets**
- **Inconsistent markets**
- **Rock Hill + Charlotte-Mecklenburg**

Mean commuting time and how it has changed

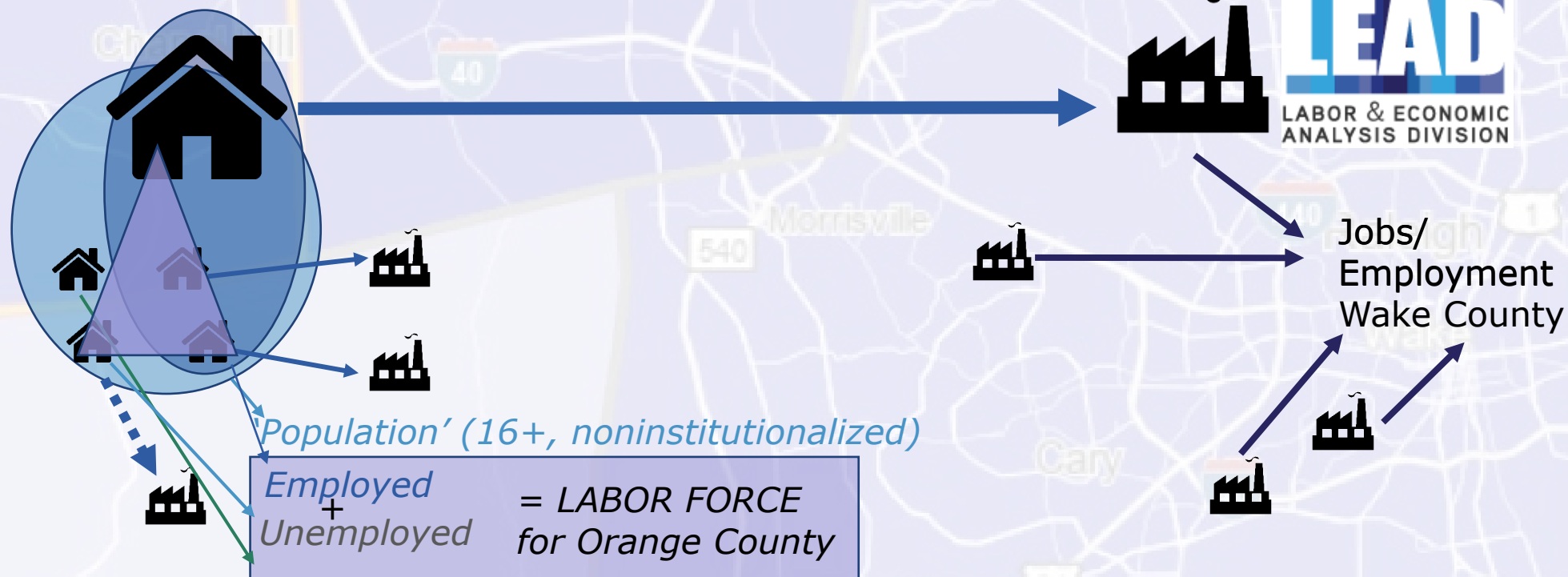


Changing patterns towards increased cross-county commuting

**Do workers live and
work in the same
county, and if so, how
has this relationship
changed over time?**

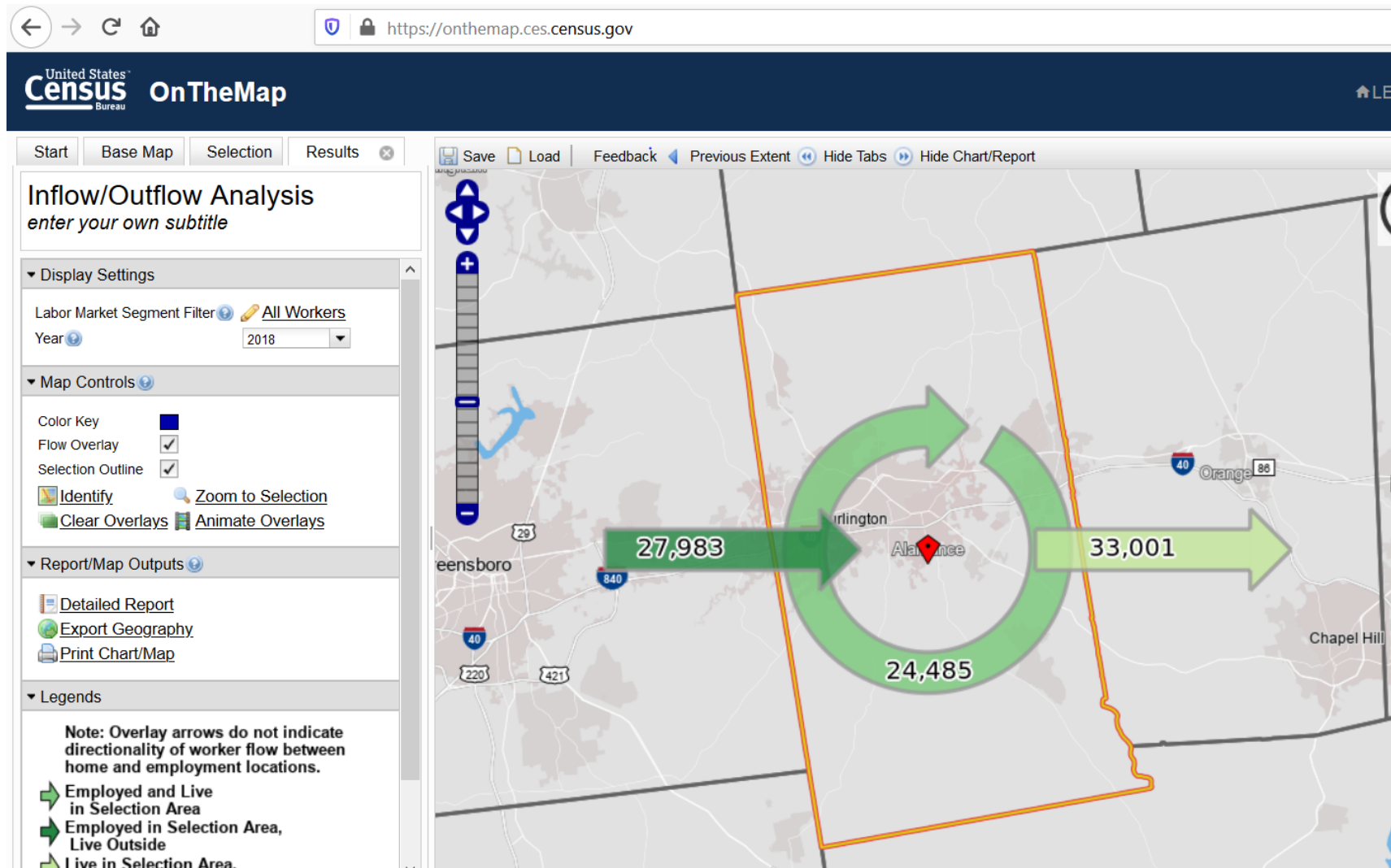
Orange County, NC

Wake County, NC



**Do workers live and
work in the same
county, and if so, how
has this relationship
changed over time?**

Method for work/live in same county



Method for work/live in same county

2018 Inflow/Outflow Job Counts (Private Primary Jobs)	Employed in County Live Outside (A)	Employed and Live in County (B)	Live in County Employed Outside (C)	Residents of County Workers (B+C)	Percent (B/(B+C))
Alamance County	27,983	24,485	33,001	57,486	42.6%
Alexander County	4,445	3,344	9,288	12,632	26.5%
Alleghany County	1,107	1,160	1,794	2,954	39.3%
Anson County	2,848	2,028	5,683	7,711	26.3%

Method for work/live in same county

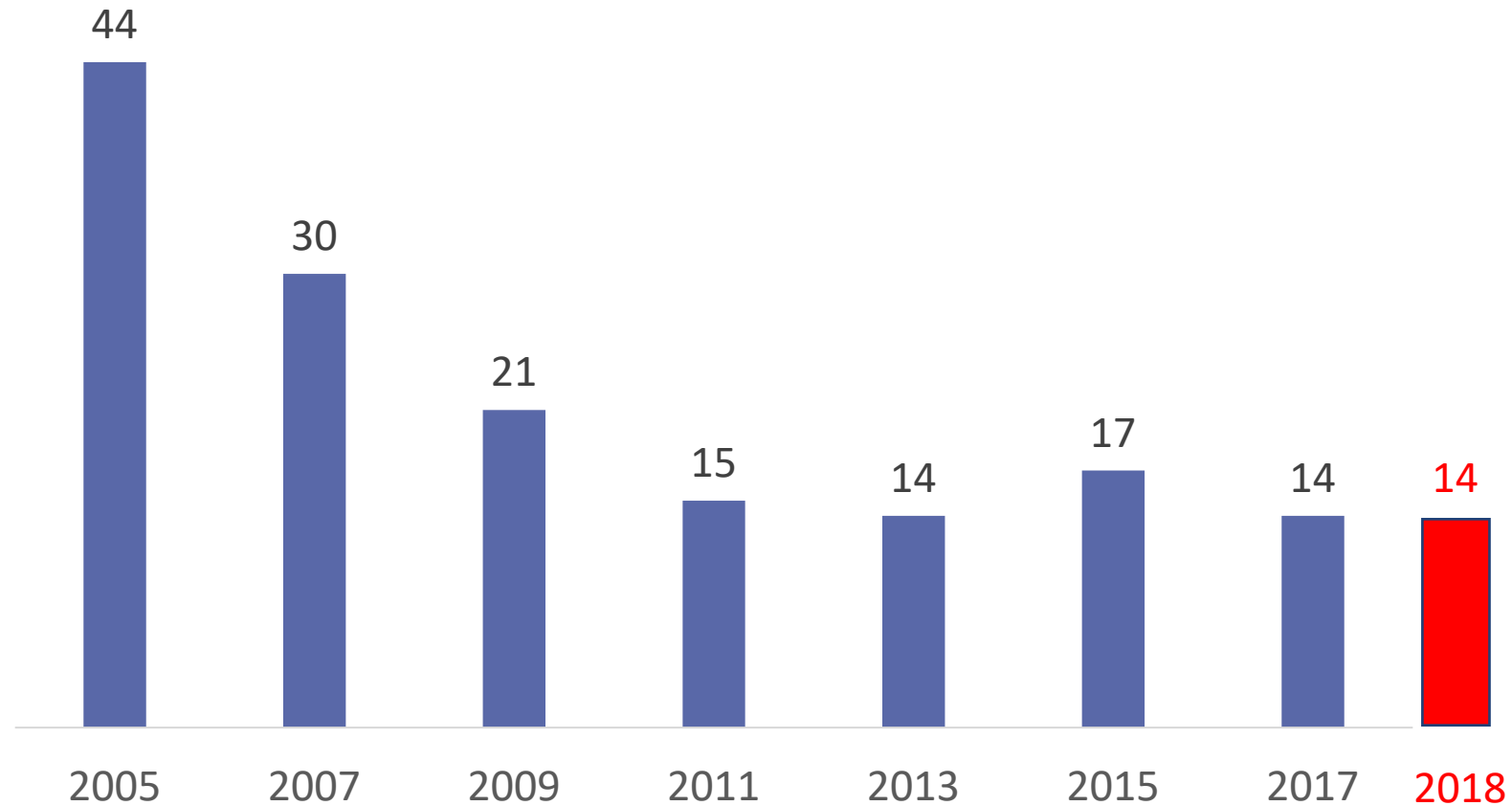
At first, we just used OnTheMap.

- **It only takes 100 sets of clicks**
- **for each of the 100 counties in NC,**
- **and then data entry**
- **for 3 data points each.**
- **for each year...**

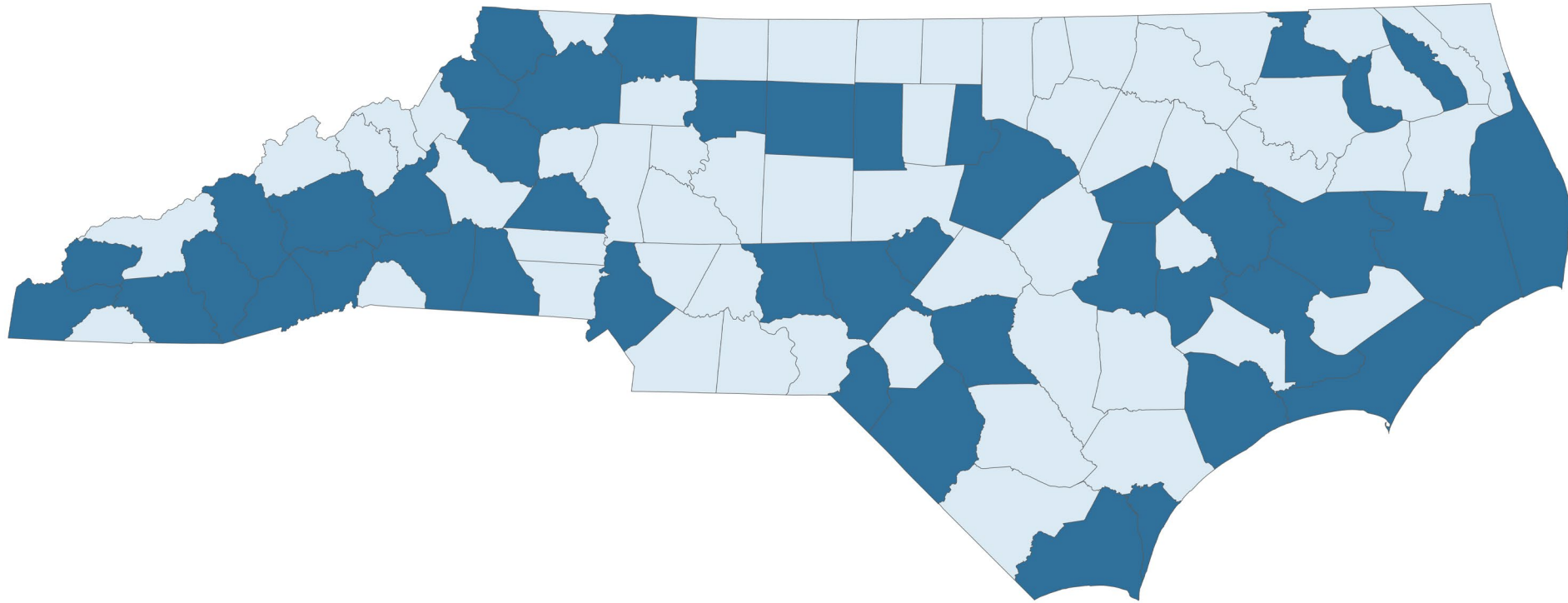
Enter SAS! (but beware Column C!)

Results for work/live in same county

Number of Counties where majority of worker residents work in the same county they live in



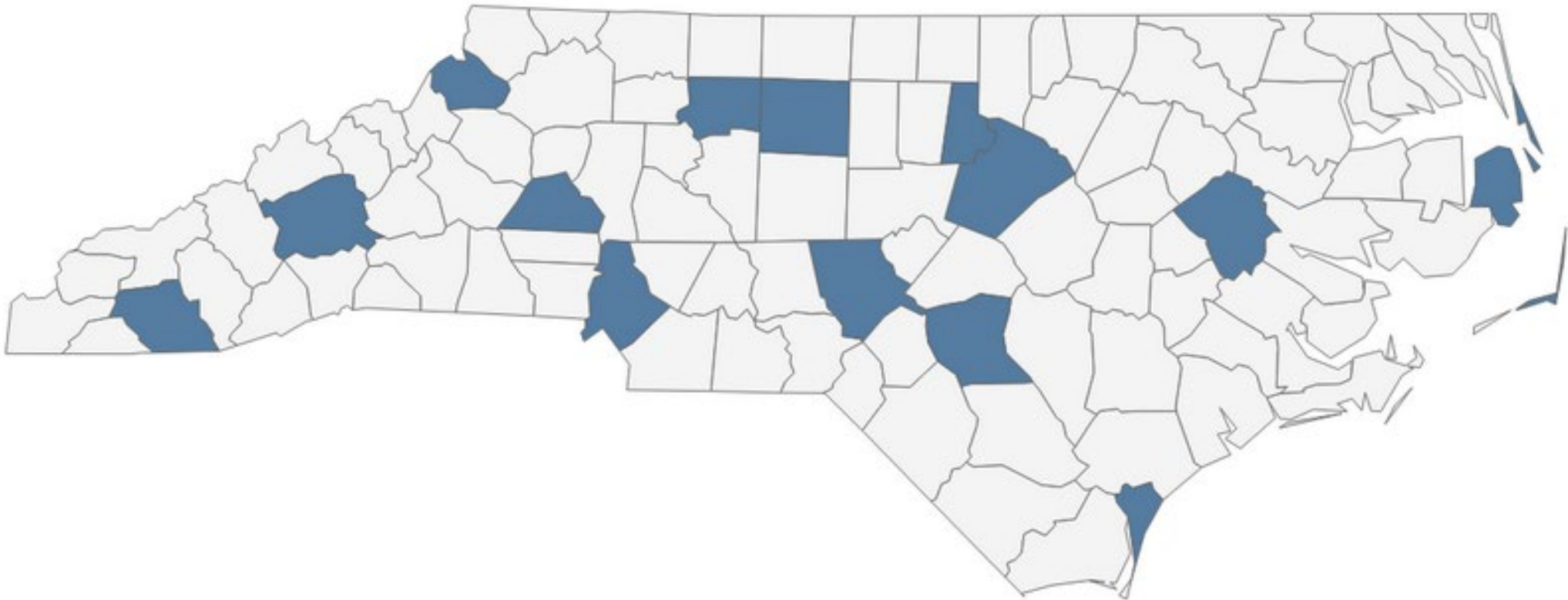
Results for work/live in same county 2005



Source: U.S. Census Bureau. LODES Private Primary Jobs

Powered by Bing
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Results for work/live in same county 2018



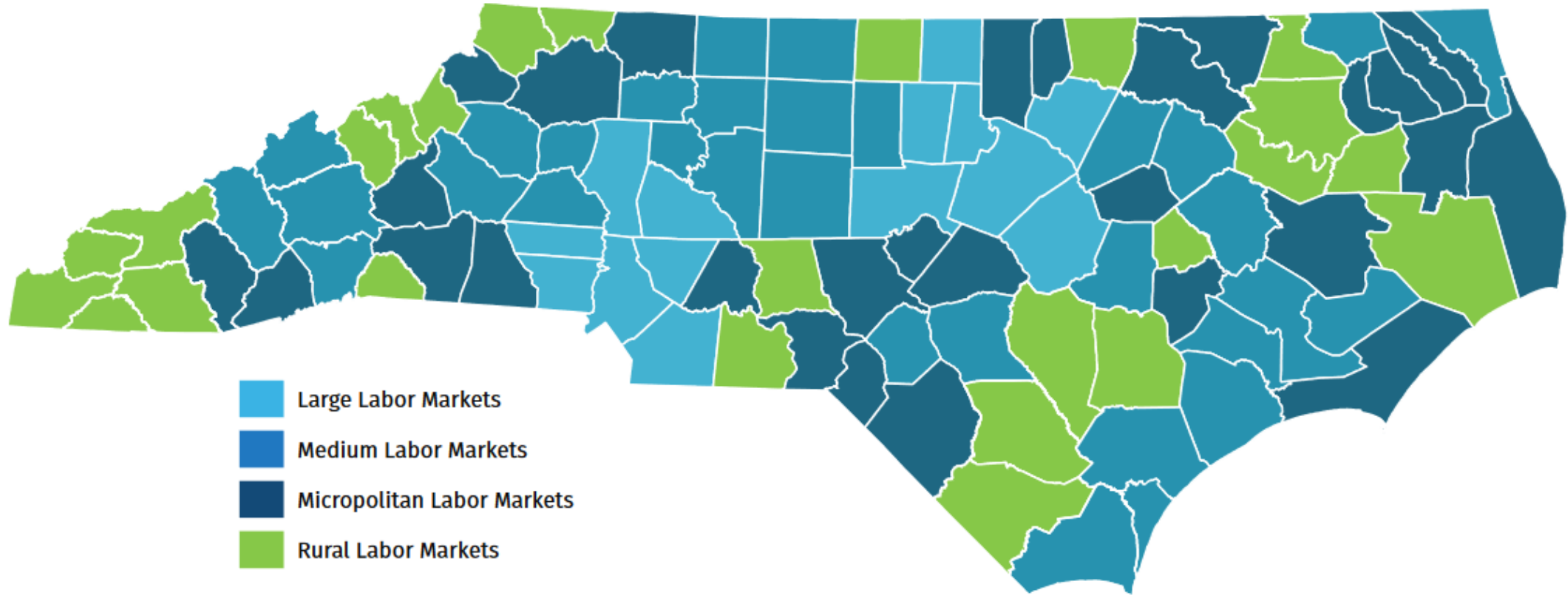
Source: U.S. Census Bureau. LODES Private Primary Jobs

Question for commuting patterns by labor market

- **What can we learn about the nature of commuting patterns by examining these by size of labor market?**
- **Do workers from large metro areas commute outside their region?**
- **Do workers from smaller sized counties and labor markets commute into larger sized labor markets?**

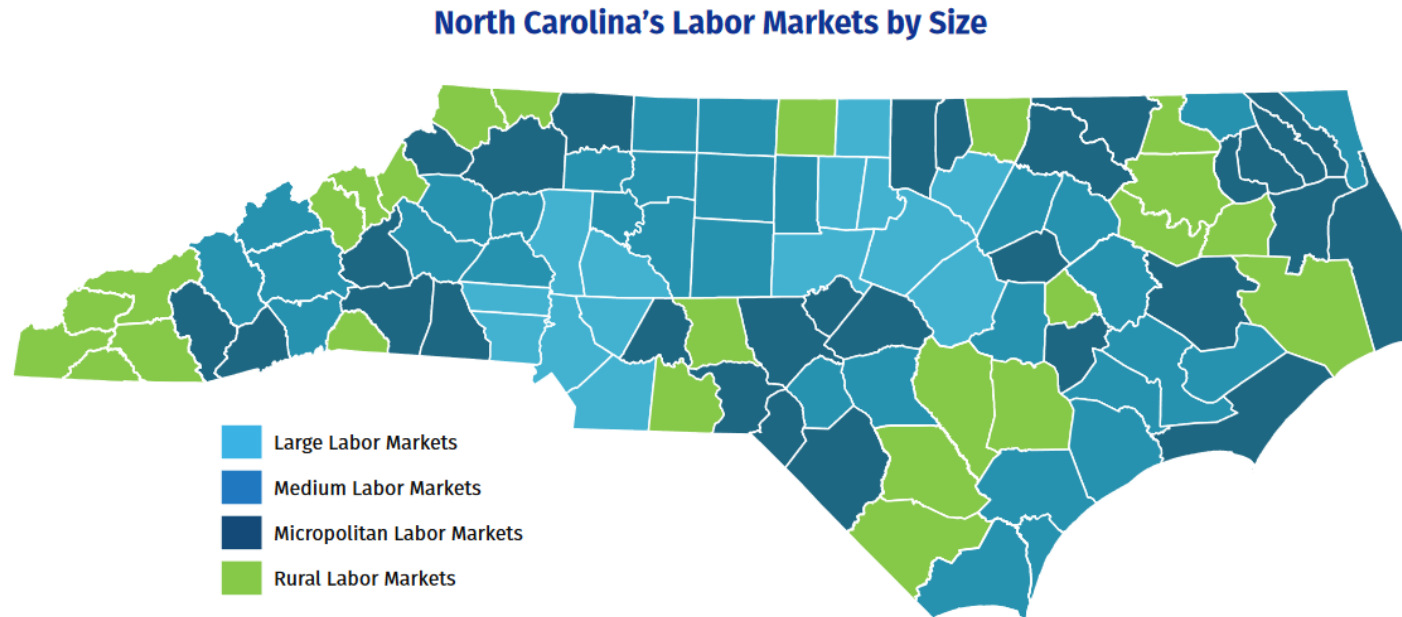
What do we mean by labor market size?

North Carolina's Labor Markets by Size



Method for commuting patterns by labor market

- **Mirrored what we did before, but grouped counties in with Labor Market Size**



Results for commuting patterns by labor market

Lives in....	Works in...	Large	Medium	Micropolitan	Rural
Large		85.7%	9.7%	3.9%	0.7%
Medium		16.4%	74.9%	6.6%	2.1%
Micropolitan		23.0%	21.1%	51.4%	4.6%
Rural		16.6%	24.4%	14.5%	44.4%

Source: U.S. Census Bureau. LODES Private Primary Jobs

Live and Work in the Same County

Statewide, 47.7% of private primary workers work in the same county they live in.

This varies by Labor Market Size:

Labor Market Size	% Live and Work in Same County
Large	51.4%
Medium	48.0%
Micropolitan	40.8%
Rural	35.4%

Source: U.S. Census Bureau. LODS Private Primary Jobs

Results for commuting patterns by labor market (work outside home county)

Lives in....	Works in...	Large	Medium	Micropolitan	Rural
Large		70.6%	20.0%	8.0%	1.4%
Medium		31.5%	51.7%	12.6%	4.1%
Micropolitan		38.8%	35.6%	17.8%	7.8%
Rural		25.8%	37.8%	22.5%	14.0%

Source: U.S. Census Bureau. LODS Private Primary Jobs

Results for commuting patterns by labor market

Workers in Rural and Micropolitan areas are:

- more likely to work in a different county than their residence
- more likely to drive to larger labor markets to work.

This process does not work in reverse.

Tying it all together!

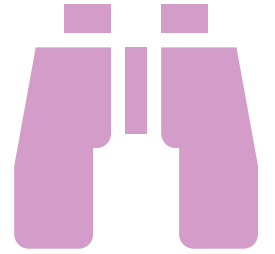


We need to:

consider larger economic regions and labor sheds rather than individual counties.

watch for metro-area growth in jobs and population

Future Research



- **Continue to monitor Interconnected Markets**
- **How commuting patterns relate to industrial patterns**
- **How commuting patterns relate to population growth or decline**
- **Watch Working from Home**

Questions?

Thank You!



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